

EVALUATING NEW BEAN GENOTYPES WITH TRADERS

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INTRODUCTION

Obtaining farmers' assessments of promising lines during on-farm varietal trials is now considered a routine part of plant breeding procedures. However, with the growing commercialization of beans in Eastern and Southern Africa, market demand from traders, market vendors and consumers, plays an important role in determining the intensity and speed of varietal adoption by rural producers. Information about the potential marketability of promising bean lines can benefit plant breeders by enabling them to develop varietal release strategies which take marketability into account. Such information may also prove useful to varietal release committees and seed agencies, the latter in formulating production targets for newly released varieties.

Two questions motivated this study: can traders evaluate unknown genotypes and what is the best method for eliciting their preferences? Although preference ranking techniques for conducting farmer evaluation are well developed, these may not necessarily be appropriate for use with traders and market vendors. Traders lack the patience and time for lengthy exercises and the large crowds in markets make it difficult to organize group or individual interviews. In addition, it is problematic to do matrix or pair-wise ranking on paper or on the ground in markets due to lack of space and muddy conditions.

METHODS

In June and August 1996, interviews were conducted by a team of bean researchers (social scientists and a plant breeder) with 19 bean vendors in two markets in Kampala, Uganda to obtain their assessment of new bean varieties/line. During individual interviews, sellers were asked to assess two sets of materials: 5 newly released varieties (MCM 5001, CAL 96, MCM 1015, MCM 2001 and OBA 1) and 5 lines from advanced and intermediate yield trials (DFA 41, SUG 73, EMP 233, AFR 543 and DRK 57). Seed of the varieties being evaluated was presented in clear plastic packets. Sellers were asked to allocate scores (a total of 20 points) in a ranked manner using bean seeds as counters. Scores were arranged on a modified version of a traditional African board game (known variously throughout East Africa as omweso, mbao, ajua etc.). The board, which consists of 6 rows and 6 columns with indentations to contain the counters, is small (40 cm x 22 cm when closed), is easily transported and can rest on the lap of the person doing the evaluation.

RESULTS

The study showed that bean traders are willing and able to evaluate new genotypes on the basis of observable characteristics, namely, color, size, shape and resemblance to known seed types. Where a new genotype resembled a local variety, it was assumed to have similar consumer characteristics. Traders mentioned several desirable characteristics including medium brown soup color, swelling when cooked, heavy in weight/density, tasty and short cooking time.

The two Calima releases, CAL 96 and OBA 1, ranked highest, while the black seeded MCM 1015 consistently ranked lowest (the variety is targeted for northern Uganda). The most popular lines among traders were DFA-41, a Calima seed type, followed by EMP 233, a white pea bean. Both lines resemble popular marketed varieties. AFR 543, a line with beige, large, flat seeds, scored the lowest due to what traders considered its unattractive seed color. Ranking did not vary significantly by traders' years of business experience, number of varieties sold, type of business (wholesale vs retail) or sex.

CONCLUSIONS

The exercise provided valuable information on traders' preference criteria and feedback on the marketability of new genotypes. The board game method of preference ranking proved appropriate to market conditions and was highly appreciated by traders. It is therefore recommended that plant breeders in Uganda and other parts of East Africa periodically include trader evaluations as part of their routine testing procedure for new genotypes.

In the commercialized bean growing environment of Uganda, researchers and seed suppliers should expect relatively rapid adoption of Calima types such as CAL 96, OBA 1, DFA 41 and white pea beans such as EMP 233. On the other hand, they should anticipate a highly locality specific demand for MCM 1015 and a relatively slow start in the adoption of MCM 5001 and MCM 2001 due to low market potential. SUG 73, DRK 57 and AFR 543 are likely to be rejected by traders and market-responsive farmers and may only have limited adoption. Bean researchers should however bear in mind that market demand for unknown and unappreciated seed types can develop in 3-5 years, provided that cultivars have other positive consumer characteristics such as good taste and short cooking time.